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ABSTRACT

The widespread incidence of depression has promoted many theories about what variables are involved in this disorder. Beck has theorized that a depressive's negative affect results from a schema of negative views toward oneself. Gotlib and McCann have concluded that depressives have greater accessibility than nondepressives to negative content constructs. A study was conducted to examine the idea of automatic processing of negative information due to these accessible constructs in depressives. Depressive and nondepressive undergraduates (N=52), chosen on the basis of their Beck Depression Inventory Scores, judged whether positive and negative adjectives described themselves or the average person. The amount of attentional capacity available for this task was varied by having half the subjects keep a six-digit number in short-term memory until each judgment task was completed. The results indicated that for depressives, memory load increased latency of judgments for nonsocial and self-referent nondepressed adjectives, but affective judgment times for depressed adjectives much less. For nondepressives, the latency of judgments for depressed content adjectives and nonsocial decisions was affected by memory load, while latency of judgments for nondepressed content adjectives was only minimally greater under memory load. No such pattern was found for the other-referent judgments. These data suggest that depressives and nondepressives process positive and negative self-referent information with differing degrees of efficiency. (NRB)

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Automaticity of Negative Self-referent Judgments in Depression

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Paper presented at the Annual Meeting of the Eastern Psychological Association, Boston, Mass. March 1985

Annual Meeting of the Eastern Psychological Association

Automaticity of Negative Self-referent Judgments in Depression

Mary Tota & John Bargh, New York University

Problem

The widespread incidence of depression has prompted many theories about what variables are involved in this disorder. Beck (1967) has described the origin of depression as primarily cognitive. That is, a depressive's negative affect is the result of a schema (or construct that influences an individual's reactions and responses and facilitates in efficient processing of personal information) which consists of negative views towards one's self, experiences and future. In addition, activation of this maladaptive schema is said to occur automatically, without deliberation or intention on the part of the depressive. This implies that depressives may not be aware of the maladaptive inferences they make, which helps to explain why this state is so difficult to overcome (Bargh, 1984).

Gotlib and McCann (1984) have concluded from their work that depressed subjects have greater accessibility to negative content constructs than nondepressives. The present study set out to examine the idea of automatic processing of negative information due to these accessible constructs or schemas in depressives. Our hypothesis was that depressives would make judgments on negative adjectives in reference to

themselves more efficiently and to make such decisions automatically (i.e. require no attentional capacity to do so) then when judging positive trait dimensions. Non-depressives, on the other hand, would process positive self-referent adjectives more efficiently than negative adjectives.

We gave depressives and non-depressives both positive and negative adjectives to judge as to whether they described themself or the average person. We varied the amount of attentional capacity available for this task by having half the subjects keep a six digit number in short-term memory until each judgment task was completed. The rest of the subjects made these judgments under no memory load. By loading the subjects attentional capacity with digits we markedly reduced the amount of attention left available for the judgment task (Logan, 1979). If depressives automatically process negative information regarding themselves, and possibly regarding others as well, the time to make each negative content judgment should not be affected by memory load. The load manipulation should affect judgment times for positive content words, however, since these consructs are not assumed to be highly accessible to the depressives. Again, the non-depressives should be affected by the memory load when processing negative information but not with positive content adjectives.

Subjects

Subjects were 52 introductory psychology students at New York University who partially fulfilled a course requirement

by participating. Subjects were chosen on the basis of their scores on the Beck Depression Inventory (Beck, Ward, Mendelson, Mock & Erbaugh, 1961) given at the start of the semester as part of a battery of questionaires. The BDI is a 21 item self-report measure. Scores range from 0-63, with a score of 63 indicating extreme depression. For our purposes a criterion score of 15 was used to indicate depression. The non-depressives in our study had Beck scores of 1 or below. These subjects were contacted by phone and asked to participate.

Procedure

Subjects were run one at a time. After giving their consent to participate, they were seated in front of a cathode-ray-tube (CRT) monitor that was under program cntrol of an Apple II micro-computer. Experimental instructions were then presented via the CRT screen. These instructions informed subjects that they would be given a target word and would then be asked to make one of four types of judgments (see Table 1) about the word: structural (contains the letter X? where X is a given letter), semantic (means the same as XXXX? where XXXX is a given word), descriptive of the average person (decribes the average person?) and self-descriptive (describes you?). The semantic and structural judgments were included to avoid a temporary social judgment set that might be established from solely making "self" and "other" decisions. Otherwise this might make "self" and

"other" constructs more readily available and this artifact could lead to more efficient processing of these constructs in itself. The "other" judgments were included to see if depressive's schemas also generalizes to other people. The four types of judgments were presented in a random order, and each of the 66 words was judged only once in one of the four decision types.

The words to be judged with regard to self and other consisted of 15 depressed content adjectives (e.g., bleak, defeated, failure) and 15 non-depressed content adjectives (e.g., capable, sociable, playful), selected from the norms developed by Derry and Kuiper (1981).

Upon the presentation of each word to be judged, the subject was instructed to press a button marked either "YES" or "NO" in response as quickly as possible. The computer recorded the response latency in milliseconds.

Half the subjects, those in the memory load condition, were also given the additional task of holding a set of six digits in short-term memory until after each judgment was made. The digits were presented before each trial, and subjects had to repeat the digits back to the experimenter after making each judgment.

Upon completion of the experiment, subjects filled out the Beck once more and those subjects whose scores fell above or below our criteria were not included in our analysis. Subjects were then fully debriefed and thanked for their participation.

Results

A repeated-measures analysis of variance was conducted on the judgment latencies, with subject depression (depressed vs. non-depressed) and memory load (0 vs. 6 digits) the between subjects factors, and judgment type (self-referent or other referent) and adjective valence (negative vs. positive) the within subjects factor. A reliable main effect for judgment type was found, $F(1,48)=34.92$, $p<.001$, with self-referent judgments being made faster than other referent judgments. The interaction between depression and adjective valence was also significant, $F(1,48)=6.56$, $p=.014$, and the three-way interaction between load, judgment type and valence proved marginally significant, $F(1,48)=3.77$, $p=.06$. All of these effects were qualified by the significant interaction between depression, load , judgment type and adjective valence, $F(1,48)=4.07$ $p<.05$.

Figure 1 presents the differnces in decision times in milliseconds between the no load and memory load conditions for nonsocial decisions (the average of the structural and semantic latencies) and the two types of self-referent and other-referent judgments. For depressives, memory load increased the time to make non-social and self-referent non-depressed decisions (200-400ms increase), but judgment times of depressed adjectives were much less affected by the memory load. With non-depressives the latency of judgments concerning depressed content adjectives and nonsocial decisions were affected by memory load while the time taken

to make decisions concerning nondepressed content adjectives was only minimally greater under memory load conditions.

No such pattern was found for the other-referent judgments. Both depressed and nondepressed subjects were not affected by memory load on "other" nondepressed judgment times but decision times for "other" depressed was affected by load.

Implications

In the present study the data suggest that depressives and non-depressives process positive and negative self-referant information with differing degrees of efficiency. Depressives, under the condition of scarce attentional capacity due to the memory load, still seemed to efficiently process negative trait characteristics when judging them on their self-reference. Yet, this was not the case for the non-social and self non-depressed judgments tasks. Non-depressives, on the other hand, appeared to be able to process positive adjectives in referance to self just as easily whether their attention was loaded or not. It also seems that a depressives negative outlook does not generalize to others but that both depressed and nondepressed subjects view others in the same manner, i.e. non-depressed.

It seems that two different types of processing is going on here. Our data may suggest that these "effecient" processes may be automatic to some extent, i.e. they require less attention, are less affected by any load on memory and are diffucult to alter once they begin (Shiffrin & Schneider,

1977).

Processing negative informantion concerning the self more efficiently than positive information has important implications for the maintenence of depression. It was previously mentioned that automatic processing may help explain why this state is so difficult to overcome--any self-relevant information that can be taken in a negative light, is taken up by a schema or construct, perhaps, and processed automatically to its completion without much deliberation on the part of the depressive. This may lead to increased negative affect and the cycle contiues. More research is needed to further examine the automatic influence one these categories.

Structural	Contains the letter t? trip
Semantic	Means the same as road? north
Other-referent	Describes the average person? rough
Self-referent	Describes You? young

Table 1 Examples of the four judgment types.

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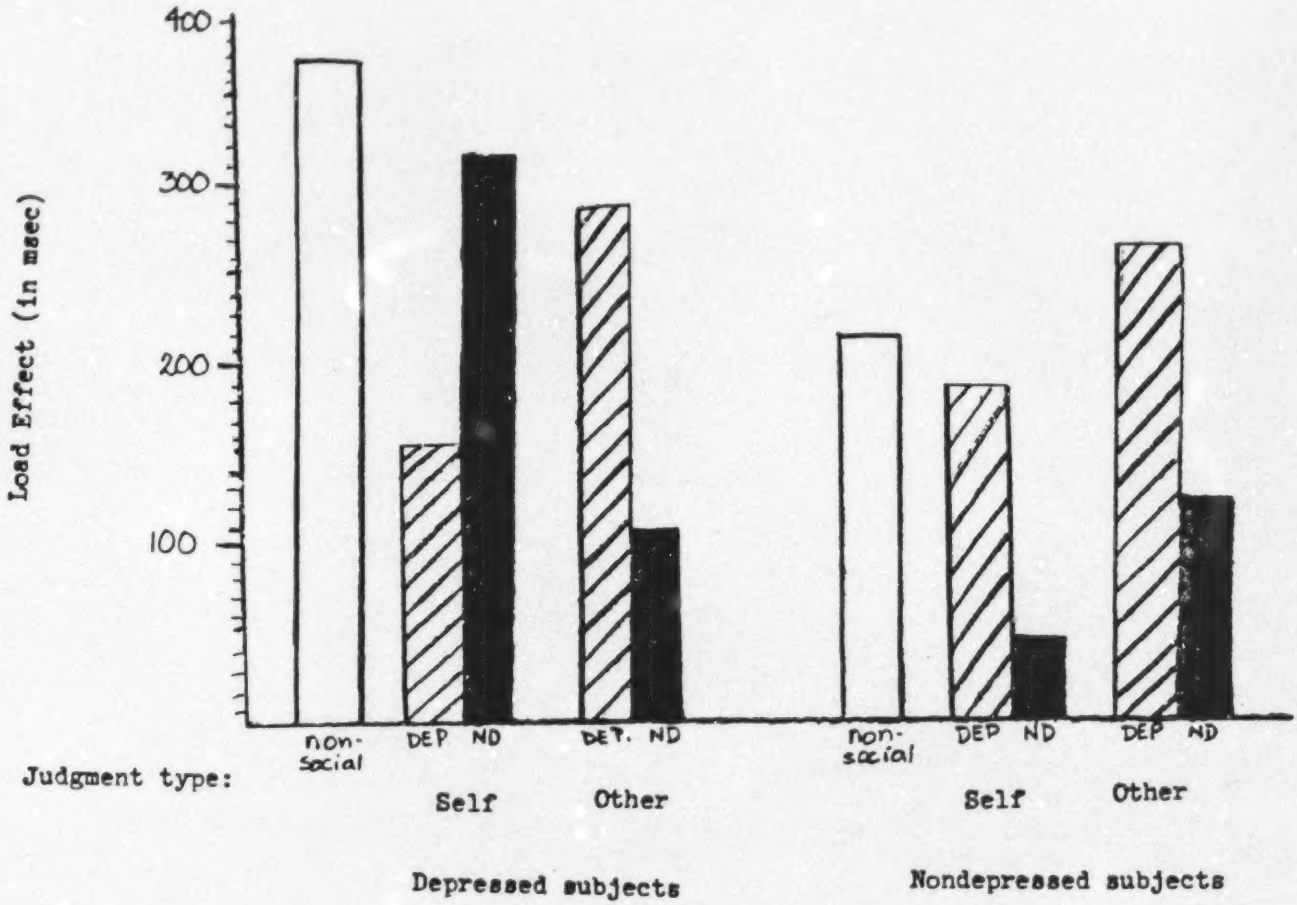

Figure 1 Difference in mean response latency between load and no load conditions as function of judgment type and valence*

*Judgment types were nonsocial (structural and semantic), self and other-referent. Valence refers to depressed (DEP) vs. nondepressed (ND) content adjectives.

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